

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A dual mode digital cordless handset configured for use in a system for providing voice and data services over a wired data network, the system having a first wireless network including a first wireless access point wired to the wired data network, the first wireless access point operative to provide wireless access to the wired data network over a wireless connection and a second wireless network operative to provide telecommunications services on wireless communications frequencies, the dual mode digital cordless handset comprising:

means for receiving an Internet Protocol (IP) address[[,]] when in range of a wireless transmission area of the first wireless network;~~wherein the means for receiving the IP address comprises at least one of the following:~~

means for broadcasting, from the dual mode digital cordless handset, a medium access control (MAC) address[[,and]];

means for providing a user name and password for access via the wireless access point;

means for providing identification information, comprising[[:]] an identity of a user, to the first wireless access point, to register with the wired data network via the first wireless network, the means for providing identification information comprising: means for sending providing subscriber identity module (SIM) information, the SIM information being received by a home location register (HLR) of the wired data network, the HLR being configured to obtain from the SIM information, the identification information for determining whether to the wireless access point to register with the wired data network via the first wireless network, wherein the identification information is used to verify the legitimacy of an attempt to access [[a]] the voice and data services at the dual mode digital cordless handset is legitimate, and for determining features applicable to the dual mode digital cordless handset, the voice and data services being provided by, and a restriction of the voice and data services being defined and implemented by, an application server, the restriction of the voice and data services being associated with the identity of the user of

~~the dual mode wireless device; and feature applicable for a user, the identification information being provided by a home location register (HLR);~~

means for communicating in a first mode with the first wireless access point of the first wireless network via the wireless connection in order to ~~provide~~ receive the voice and data services over the wired data network;

means for switching from the first wireless network to the second wireless network to communicate in a second mode with the second wireless network in order to ~~provide~~ receive telecommunications services on the wireless communications frequencies when out of range of the wireless transmission area of the first wireless network and in range of a wireless transmission area of the second wireless network;

~~means for determining features provided to the dual mode digital cordless handset, wherein determining features provided to the dual mode digital cordless handset comprises comparing the SIM card information to the identification information provided by the HLR; and~~

means for operating according to the restriction of the voice and data services defined and implemented by the application server. ~~within restrictions defined for the dual mode digital cordless handset, wherein operating within restrictions defined for the dual mode digital cordless handset comprises determining restrictions on use defined and implemented by an application server.~~

2. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim 1, wherein the means for switching switches between the first wireless network and the second wireless network without user action.

3. (Cancelled)

4. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim 1, wherein the dual mode digital cordless handset further comprises:

means for detecting signaling transmissions of the second wireless network; and

means for registering with the second wireless network.

5.-8. (Cancelled)

9. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim ~~[[8]] 1~~, wherein the ~~dual mode digital cordless handset comprises~~ means for switching is configured to switch voice or data communication between the first wireless access point and ~~another~~ a second wireless access point ~~voice or data communication~~.

10. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim 9, wherein the means for switching between the first wireless access point and ~~another~~ the second wireless access point ~~switches~~ is configured to switch when the dual mode digital cordless handset exits the wireless transmission area of the first wireless access point and when the dual mode digital cordless handset enters the wireless transmission area of the second wireless access point.

11. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim 1, wherein ~~the wireless access point is further operative to provide wireless access to the wired data network over~~ the wireless connection ~~comprising~~ comprises an IEEE 802 connection.

12. (Currently Amended) The dual mode digital cordless handset of ~~Claim~~ claim 1, wherein the second wireless network ~~being~~ is operative configured to provide the telecommunications services on the wireless communications frequencies over a GSM/GPRS connection.

13. (Currently Amended) A method of providing voice and data services over a wired data network and over a second wireless network to a dual mode digital cordless handset, the method comprising:

detecting, at the dual mode digital cordless handset, a first wireless connection provided by a first wireless access point, wherein the first wireless access point is wired to the wired data network;

in response to detecting the first wireless connection, broadcasting a medium access control (MAC) address to the first wireless access point;

in response to broadcasting the MAC address, receiving an Internet Protocol (IP) address at the dual mode digital cordless handset; ~~wherein receiving the IP address comprises at least one of the following: broadcasting, from the dual mode digital cordless handset, a medium access control (MAC) address, and providing a user name and password for access via the wireless access point;~~

receiving a request to transmit subscriber identity module (SIM) information using the received IP address;

providing, to the wired data network, using the received IP address, ~~identification information associated the dual mode digital cordless handset to the wired data network,~~ wherein the wireless access point is configured to use the subscriber identity module (SIM) SIM information from the dual mode digital cordless handset for determining whether a user identified by the SIM information is a valid user based on a look-up of the SIM information in a first home location register (HLR), the first HLR being configured to obtain from the SIM information, identification information for determining ~~to determine if a user associated with the dual mode digital cordless handset is a subscriber to the wired data network, wherein the identification information is used to verify the legitimacy of an attempt to access a service the voice and data services legitimately accessible by the user identified by the SIM information, the voice and data services being provided by, and a limitation on the voice and data services being defined and implemented by, a first application server, the limitation being based on the user identified by the SIM information;~~ applicable for the user, the identification information being provided by a home location register (HLR);

in response to the first HLR determining that the user is a valid, the dual mode digital cordless handset receiving, through the wired data network, incoming calls or data services directed to the dual mode digital cordless handset, and ~~sending~~ transmitting outgoing calls or data services from the dual mode digital cordless handset, through the wired data network according to the voice and data services legitimately accessible by the user and the limitation on the voice and data services;

in response to the first HLR determining that the user is not valid, the dual mode digital cordless handset receiving an indication that communication to the dual mode digital cordless handset has ceased;

detecting, at the dual mode digital cordless handset, a loss of the first wireless connection;

detecting, at the dual mode digital cordless handset, a connection through the second wireless network;

~~in response to detecting the connection through the second wireless network, receiving incoming calls directed to the dual mode digital cordless handset, and sending transmitting outgoing calls from the dual mode digital cordless handset, through the second wireless network; determining features provided to the dual mode digital cordless handset, wherein determining features provided to the dual mode digital cordless handset comprises comparing the SIM card information to the identification information provided by the HLR; and providing subscriber identity module (SIM) information from the dual mode digital cordless handset to a second HLR communicatively coupled to the second wireless network, the second HLR being configured to determine a user identified by the SIM information, the voice and services legitimately accessible by the user identified by the SIM information and a limitation on the voice and data services, the limitation being based on the user identified by the SIM information wherein the voice and data services legitimately accessible by the user identified by the SIM information are implemented by a second application server communicatively coupled to the second HLR;~~

~~operating within restrictions defined for the dual mode digital cordless handset, wherein operating within restrictions defined for the dual mode digital cordless handset comprises determining restrictions on use defined and implemented by an application server.~~

in response to the second HLR determining that the user is a valid, receiving, through the wired data network, incoming calls or data services directed to the dual mode digital cordless handset, and transmitting outgoing calls or data services from the dual mode digital cordless handset, through the wired data network according to the voice and data services legitimately accessible by the user and the user-specific restriction on the voice and data services; and

in response to the second HLR determining that the user is not valid, the dual mode digital cordless handset receiving an indication that communication to the dual mode digital cordless handset has ceased.

14.-15. (Cancelled)

16. (Currently Amended) The method of ~~Claim~~ claim 13, wherein receiving the incoming calls directed to the dual mode digital cordless handset and ~~sending transmitting~~ the

outgoing calls from the dual mode digital cordless handset through the wired data network comprises establishing a voice over Internet protocol (VoIP) session between the dual mode digital cordless handset and the wired data network through the first wireless access point.

17. (Currently Amended) The method of ~~Claim~~ claim [[16]] 13, wherein receiving the incoming calls directed to the dual mode digital cordless handset comprises:

~~detecting an IP address associated with a telephone number to which the incoming calls are directed; and~~

communicating via a voice over Internet protocol (VoIP) session if a one of the incoming calls is directed to a telephone number associated with an IP address that matches the detected IP address. if the IP address associated with the telephone number to which the incoming calls are directed matches the IP address received at the dual mode digital cordless handset then establishing the VoIP session with the dual mode digital cordless handset.

18. (Currently Amended) The method of ~~Claim~~ claim [[16]] 13, wherein ~~sending~~ transmitting the outgoing calls from the dual mode digital cordless handset comprises: establishing, at the wired data network, [[the]] a voice over Internet protocol (VoIP) session between the dual mode digital cordless handset and with the wired data network to receive respective telephone numbers associated with the outgoing calls at the wired data network; and initiating the outgoing calls to the received telephone numbers. completing the outgoing calls to parties associated with the telephone numbers.

19. (Currently Amended) The method of ~~Claim~~ claim 13, wherein ~~detecting, at the dual mode digital cordless handset, the first wireless connection further comprises detecting the first wireless connection~~ comprising comprises an IEEE 802 connection.

20. (Currently Amended) The method of ~~Claim~~ claim 13, wherein ~~detecting, at the dual mode digital cordless handset, the first wireless connection further comprises detecting the first wireless connection~~ comprising comprises a Bluetooth connection.

21. (Currently Amended) The method of ~~Claim~~ claim 13, wherein ~~providing the voice and data services over the second wireless network comprises providing the voice and data services over the second wireless network over~~ a GSM/GPRS connection.

22. (Currently Amended) A system for providing voice and data services over a wired data network and over a second wireless network and having a dual mode digital cordless handset, the system comprising:

a broadband residential gateway configured to provide wireless access to the wired data network over a first wireless connection; comprising

a home location register (HLR), ~~the home location register operative~~ configured to maintain identification information ~~used to verify~~, the HLR also configured to evaluate the maintained identification information to:

verify [[the]] legitimacy of an attempt to access [[a]] the voice and data services applicable for a user associated with a dual mode digital cordless handset, the voice and data services being provided by, and a restriction on the voice and data services being defined and implemented by, an application server communicatively coupled to the HLR; and

determine features to be provided to [[a]] the dual mode digital cordless handset, wherein determining features to be provided to the dual mode digital cordless handset comprises comparing subscriber identity module (SIM) [[card]] information to the identification information provided [[by]] to the HLR[[,]], the determined features being provided from the application server to the dual mode digital cordless handset via the broadband residential gateway;

a first network device operative configured to communicate with the wired data network[[,]];

a second network device operative configured to provide over a wired connection a communications link to at least one wired network devices device over a wired connection[[,]]; [[and]]

~~a wireless access point operative to provide wireless access to the wired data network over a first wireless connection;~~

a second wireless network operative configured to provide telecommunications services on wireless communications frequencies; and

the dual mode digital cordless handset ~~operative~~ configured to[[,]]:

receive an Internet Protocol (IP) address, when in range of a wireless transmission area of the ~~wireless access point~~ broadband residential gateway in response to; ~~wherein receiving the IP address comprises at least one of the following:~~ means for ~~broadcasting~~ broadcasting, from the dual mode digital cordless handset, a medium access control (MAC) address[[, and]] or providing a user name and password for access via the ~~wireless access point~~ broadband residential gateway;

provide identification information to the wired data network via the ~~wireless access point~~ broadband residential gateway;

communicate in a first mode with the ~~wireless access point~~ broadband residential gateway via the first wireless connection in order to ~~provide~~ receive the provided voice and data services over the wired data network;

when out of range of the wireless transmission area of the ~~wireless access point~~ broadband residential gateway and when in range of a wireless transmission area of the second wireless network, switch from the ~~wireless access point~~ broadband residential gateway to the second wireless network to communicate in a second mode with the second wireless network in order to ~~provide~~ receive the voice and data services over the second wireless network, wherein the ~~wireless access point~~ broadband residential gateway is configured to use the SIM information from the dual mode digital cordless handset to determine if the user associated with the dual mode digital cordless handset is a subscriber to the wired data network; and

operate ~~within~~ according to the restrictions restriction on the voice and data services, wherein the restriction on the voice and data services ~~is defined for the dual mode digital cordless handset, wherein operating within restrictions defined for the dual mode digital cordless handset comprises determining restrictions on use~~ defined and implemented by [[an]] the application server.

23. (Currently Amended) The system of ~~Claim~~ claim 22, further comprising a digital wired handset ~~operative~~ configured to communicate with the wired data network in order to provide the voice and data services.

24. (Currently Amended) The system of ~~Claim~~ claim 22, wherein the wired connection comprises a Home Phoneline Network Alliance (HPNA) connection.

25. (Currently Amended) The system of ~~Claim~~ claim 23, wherein the wired data network is ~~operative~~ configured to generate a telephone call directed toward the broadband residential gateway ~~[[and]]~~, wherein the telephone call ~~may be~~ is answered on at least one of the ~~following~~: the dual mode digital cordless handset ~~[[and]]~~ or the digital wired handset.

26. (Currently Amended) The system of ~~Claim~~ claim 23, wherein the broadband residential gateway is ~~operative~~ configured to generate a telephone call directed toward the wired data network ~~[[and]]~~, wherein the telephone call ~~may be~~ is initiated on at least one of the ~~following~~: the dual mode digital cordless handset ~~[[and]]~~ or the digital wired handset.

27. (Currently Amended) The system of ~~Claim~~ claim 23, wherein the system further comprises a directory information database included in the application server, the directory information database including information associating a telephone number to a user name or a business name, and wherein the dual mode digital cordless handset ~~[[or]]~~ and the digital wired handset ~~is operative~~ are each configured to query the directory information database by inputting the user name or the business name, and receive the associated telephone number in response to querying the directory information database. ~~access directory information provided by the directory information database.~~

28. (Currently Amended) The system of ~~Claim~~ claim 22, wherein the dual mode digital cordless handset is configured to ~~transmits~~ transmit a user identifier to the wired data network, and wherein the system further comprises a restriction database of the wired data network, the restriction database being configured to ~~that applies~~ apply rules to telephone calls of the dual mode digital cordless handset based on the transmitted user identifier ~~of the dual mode digital cordless handset~~.

29. (Currently Amended) The system of ~~Claim~~ claim 22, wherein the system further comprises a personal computer having a web interface ~~[[at a]]~~, the personal computer being linked

communicatively coupled to the wired data network, wherein the personal computer is configured to receive administrative information via the web interface ~~provides for entry of, the~~ administrative information for controlling ~~providing~~ the voice and data services provided over the wired data network.

30. (Currently Amended) The system of ~~Claim~~ claim 22, wherein the first wireless connection comprises an IEEE 802 connection.

31. (Currently Amended) The system of ~~Claim~~ claim 22, wherein the first wireless connection comprises a Bluetooth connection.

32. (Currently Amended) The system of ~~Claim~~ claim 22, ~~further comprising wherein the second wireless network being further operative to provide~~ the telecommunications services ~~on the wireless communications frequencies~~ are provided over a GSM/GPRS connection.

33. (Cancelled)

34. (Currently Amended) The method of ~~Claim~~ claim 13, ~~further comprising: sending the outgoing call comprises sending the outgoing calls from the dual mode digital cordless handset through the wired data network; and wherein~~ receiving the incoming calls ~~comprises receiving the incoming calls at the dual mode digital cordless handset through the wired data network~~ is performed using ~~[[a]]~~Session Initiation Protocol (SIP) software.

35. (Currently Amended) The method of ~~Claim~~ claim 34, further comprising storing the SIP software at the dual mode digital cordless handset.

36. (Cancelled)

37. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein ~~the wireless access point is further operative to provide wireless access to the wired data network over the wireless connection-comprising~~ comprises an unregulated wireless connection.

38. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein ~~the wireless access point is further operative to provide wireless access to the wired data network over the wireless connection comprising a connection~~ is configured to provide wireless service using at least one frequency not assigned to a service provider.

39. (Previously Presented) The method of claim 13, wherein the first wireless connection comprises an unregulated wireless connection.

40. (Currently Amended) The method of claim 13, wherein the first wireless connection ~~comprises a connection~~ is configured to provide wireless service using at least one frequency not assigned to a service provider.

41. (Previously Presented) The system of claim 22, wherein the first wireless connection comprises an unregulated wireless connection.

42. (Currently Amended) The system of claim 22, wherein the first wireless connection ~~comprises a connection~~ is configured to provide wireless service using at least one frequency not assigned to a service provider.

43. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein ~~the second wireless network is further operative to provide telecommunications services on the wireless communications frequencies comprising~~ comprise regulated wireless communications frequencies.

44. (Currently Amended) The dual mode digital cordless handset of claim ~~[[1]]~~ 38, wherein ~~the second wireless network is further operative to provide telecommunications services on the wireless communications frequencies comprising~~ comprise frequencies assigned to a service provider.

45. (Previously Presented) The method of claim 13, the second wireless network being configured to use regulated wireless communications frequencies.

46. (Previously Presented) The method of claim 13, the second wireless network being configured to use communications frequencies assigned to a service provider.

47. (Previously Presented) The system of claim 22, wherein the wireless communications frequencies comprise ~~regulated wireless communications frequencies~~ frequencies used by cellular telephone communications systems.

48. (Previously Presented) The system of claim ~~[[22]]~~ 40, wherein the wireless communications frequencies comprise frequencies assigned to a service provider.

49. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein the first wireless access point is wired to the wired data network through a broadband residential gateway comprising a broadband modem and a router, the broadband residential gateway being configured to enable ~~another~~ a second wireless access point to connect to the wired data network.

50. (Currently Amended) The ~~system~~ method of claim 13, wherein the first wireless access point is wired to the wired data network through a broadband residential gateway comprising a broadband modem and a router, the broadband residential gateway being configured to enable ~~another~~ a second wireless access point to connect to the wired data network.

51. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein the first wireless access point is further ~~operative~~ configured to provide voice-over-internet protocol (VOIP) service to the dual mode digital cordless handset.

52. (Currently Amended) The dual mode digital cordless handset of claim 1, wherein the dual mode digital cordless handset further comprises means for receiving high-speed data service from the first wireless access point.

53. (Currently Amended) The dual mode digital cordless handset of claim [[1]] 52, wherein ~~the dual mode digital cordless handset further comprises means for receiving high-speed data service from the first wireless access point wherein the received highspeed~~ high-speed data service includes comprises a multimedia service~~service~~.

54. (Currently Amended) The ~~dual mode digital cordless handset~~ system of claim [[1]] 22, further comprising a media gateway configured to [[link]] communicatively couple to the wired data network at least one of the first wireless network [[and]] or the second wireless network.

55. (Cancelled)

56. (Currently Amended) A dual mode wireless device ~~operative~~ configured to communicate with a first wireless network including at least one wireless access point wired to at least one wired data network, and a second wireless network ~~operative~~ configured to provide communication at wireless communications frequencies, the dual mode wireless device comprising:

means for receiving an Internet Protocol (IP) address when in wireless transmission range of the first wireless network, ~~wherein the means for receiving the IP address comprises at least one of the following:~~

means for broadcasting a medium access control (MAC) address associated with the dual mode wireless device[, and];

means for providing identification information, comprising an identity of a user of the dual mode wireless device and a service provider for the dual mode wireless device, the means for providing identification information comprising means for communicating subscriber identity module (SIM) information, the SIM information being used to obtain the identification information, the identification information being used to determine services to provide, and restrictions of services to apply, applied to the dual mode wireless device, the restrictions being associated with the identity of the user of the dual mode wireless device;

means for communicating in a first mode with the at least one wireless access point of the first wireless network in order to provide ~~voice and data~~ the services, the services including voice and data communication, and being associated with the at least one wired data network; and

means for switching from the first wireless network to the second wireless network to communicate in a second mode with the second wireless network in order to provide telecommunications services at the wireless communications frequencies when out of wireless transmission range of the first wireless network and in wireless transmission range of the second wireless network.